

REMARKS

Applicants thank the Examiner for total consideration given the present application. Claims 1-12 were pending prior to the Office Action. Claims 13-18 have been added through this Reply. Therefore, claims 1-18 are currently pending. Claims 1-5 and 15-18 are independent. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

ALLOWABLE SUBJECT MATTER

Applicants appreciate that claims 3, 6, 9 and 12 are allowed. Applicants further appreciate that claims 7, 8, 10 and 11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. New independent claims 15-18 include the allowable subject-matter of claims 7, 8, 10, and 11, respectively.

FORM 1449 ACKNOWLEDGMENT REQUESTED

It is noted that Applicant has not yet received initialed copy(ies) of the PTO-1449 (filed September 29, 2008) for the present application. Applicant respectfully requests that such form be provided.

35 U.S.C. § 102 REJECTION – JP 106

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Application No. JP 2001-201106-A [hereinafter "JP 106"]. Applicants respectfully traverse this rejection.

For a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. *See M.P.E.P. 2131; M.P.E.P. 706.02*. Thus, if the cited reference fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, JP 106 fails to teach or suggest each and every claimed element of claims 1, 2, 4, and 5.

For example, independent claim 1 recites, *inter alia*, “the refrigerant circuit is further provided with an adsorption heat exchanger on the surface of which an adsorbent for moisture adsorption thereon and moisture desorption therefrom is carried, and the air conditioning system is configured to supply air having passed through the adsorption heat exchanger to the room space through the utilization side heat exchanger.”

The invention as recited in claim 1 (hereinafter referred to "the present invention") is configured to supply the air having passed through the adsorption heat exchangers (see elements 56 and 57 of the instant specification) to the room space through the utilization side heat exchanger (see element 55 of the instant specification). (*Emphasis added.*)

Conversely, JP 106 is configured to supply the air having passed through heat exchangers (105 and 110) to the room space through an adsorbing/desorbing heat exchanger 103 (see Figs. 1-3 in JP 106). The cited reference performs a heat exchange process of first heat exchangers 332 and 432 and an adsorption-desorption process of adsorbing/desorbing members 303 and 403, separately (see Figs. 4-5 in the cited reference).

The present invention, however, is configured to supply the air from the adsorption heat exchanger to the utilization side heat exchanger and for instance, the air is cooled by the utilization side heat exchanger after it is dehumidified by the adsorption heat exchanger. This makes it possible to suppress and prevent drain water from occurring in the utilization side heat exchanger. However, JP 106 performs a dehumidification operation after a cooling operation or performs a dehumidification operation and a cooling operation separately, so that drain water occurs in the heat exchangers during a cooling operation.

Accordingly, the present invention as recited in claim 1 prevents the occurrence of drain water by setting the flow of air so that the air is cooled after dehumidification, which is not considered in the cited reference.

Amended independent claims 2, 4, and 5 recite, *inter alia*, “the refrigerant circuit is further provided with a cross-fin type fin-and-tube adsorption heat exchanger composed of a heat exchanger tube and a plurality of fins, wherein on the surface of the fins an adsorbent for moisture adsorption thereon and moisture desorption therefrom is carried.” *Emphasis added.*

JP 106 discloses a conventional air conditioner system 100 which includes belt shaped adsorbing/desorbing member 103 including a first section 103a and a second section 103b, a first heat exchanger 105, a second heat exchanger 110, a first plurality of belt heat exchangers 106, a second plurality of belt heat exchangers 111, a first blower fan 107, and a second blower fan 112. In operation, the adsorbing/desorbing member 103 rotates with a drive rotor 104 and patrols the inside of a 1st air-stream passage 101 and a 2nd air-stream passage 102. (See paragraph [0018].)

In addition to the distinction of the claimed invention and the JP 106 as demonstrated above, JP 106 is further distinguished from the claimed invention in that the adsorbing/desorbing member 103 is not a cross-fin type fin-and-heat tube adsorption heat exchanger composed of a heat exchanger tube and a plurality of fins. As demonstrated above, the adsorbing/desorbing member 103 is belt-shaped, which must be rotated with a drive rotor 104 for adsorbing or desorbing moistures from the 1st and 2nd air-stream passages.

Further, the effects of the claimed invention are different than the effects of the invention disclosed in JP 106.

For example, the arrangement of the utilization side heat exchanger, heat-source side heat exchanger and the adsorption heat exchanger as recited in claim 1 can reduce the amount of condensate produced near the utilization side heat exchanger during the dehumidification cooling operation since the air being cooled by the utilization side heat exchanger has been dehumidified by the adsorption heat exchanger.

The arrangement of the utilization side heat exchanger, heat-source side heat exchanger and the adsorption heat exchanger, as recited in claim 2, can enhance the moisture adsorption capacity of the adsorbent during the dehumidification cooling operation and can enhance desorption capacity during the humidification heating operation.

In addition, the arrangement of the utilization side heat exchanger, heat-source side heat exchanger and the adsorption heat exchanger as recited in claim 4 can reduce the amount of condensate produced near the heat-source side heat exchanger during the dehumidification heating operation since the air being cooled by the heat-source side heat exchanger has been dehumidified by the adsorption heat exchanger.

Further, the arrangement of the utilization side heat exchanger, heat-source side heat exchanger and the adsorption heat exchanger as recited in claim 5 can enhance the moisture desorption capacity of the adsorbent during the dehumidification cooling operation and can enhance adsorption capacity during the humidification heating operation.

Therefore, for at least these reasons, independent claims 1, 2, 4, and 5 are distinguishable from JP 106.

Accordingly, Applicants respectfully request that the rejection of claims 1, 2, 4, and 5, based on JP 106, be withdrawn.

New Claims

New claims 13 and 14 depend from allowed claims 3 and 6, respectively. Thus, claims 13 and 14 are at least allowable by virtue of their dependence on corresponding allowed claim and further in view of novel feature recited therein.

As mentioned earlier, new independent claims 15-18 recite allowable subject-matter of claims 7, 8, 10, and 11, respectively. Thus, for at least this reason, claims 15-18 are allowable over JP 106.

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ali M. Imam Reg. No. 58,755 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.


Application No. 10/581,191
Amendment dated April 3, 2009
Reply to Office Action of February 6, 2009

Docket No.: 4633-0171PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: April 3, 2009

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